AMENDMENTS TO THE CLAIMS

Applicant submits below a complete listing of the current claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of the Claims

1. (Currently amended) A method for transmitting, between a monitoring circuit integrated with a microprocessor and an analysis tool, digital messages each comprising at least one data packet, comprising:

a/ dividing each data packet into successive segments of same predetermined size, each segment being classified according to at least one ~~or the other~~ of the five following types of segment:

- segment containing a message start;
- segment containing intermediary data;
- segment containing a packet end;
- segment containing a message end; or
- empty segment;

b/ sending at the same time as each segment an identification signal characterizing the type difference between the considered segment and the previous segment; and

c/ reconstituting the packets of each message by arranging end to end the segments containing data of a same packet;

wherein a segment containing both the start and the end of a message is classified as being a segment containing a message end, and a segment containing both the start of a message and the end of a first packet of the message is classified as being a segment containing a packet end.

2. (Currently amended) The method of claim 1, [[in which]] comprising:

transmitting a segment containing a message start or an empty segment ~~may be transmitted~~ after a segment containing a message end or an empty segment;

transmitting a segment containing intermediary data ~~may be transmitted~~ after a segment containing a message start or intermediary data or a packet end; and

transmitting a segment containing a packet end or a message end ~~may be transmitted~~ after a segment of any type.

3. (Currently amended) The method of claim 2, [[in which]] comprising assigning the identification signal[[has]]:

a first value if the transmitted segment contains a message start or intermediary data;

a second value if the transmitted segment contains a packet end;

a third value if the transmitted segment contains a message end and if the previous segment contained a message end or was an empty segment; and

a fourth value if the transmitted segment is empty, or if the transmitted segment contains a message end and if the previous message contained a message start, intermediary data, or a packet end.

4. (Currently amended) A device for transmitting, between a monitoring circuit integrated to a microprocessor and an analysis tool, digital messages, each of which comprises at least one data packet, comprising:

means for dividing each data packet into successive segments of same predetermined size, each segment being classified according to at least one ~~or the other~~ of the five following segment types:

- segment containing a message start;
- segment containing intermediary data;
- segment containing a packet end;
- segment containing a message end; or
- empty segment;

means for sending at the same time as each segment an identification signal characterizing the type difference between the considered segment and the previous segment; and

means for reconstituting the packets of each message by arranging end to end the segments containing data of a same packet;

wherein the means for dividing each data packet classifies a segment containing both the start and the end of a message as being a segment containing a message end, and classifies a segment containing both the start of a message and the end of a first packet of the message as being a segment containing a packet end.

5. (New) The device of claim 4, wherein a first message of a first packet transmits in two segments, the first message having a first length and comprising a first segment having a second length, the first length being shorter than the second length.

6. (New) The device of claim 4, wherein the identification signal has:

a first value if the transmitted segment contains a message start or intermediary data;

a second value if the transmitted segment contains a packet end;

a third value if the transmitted segment contains a message end and if a prior segment contained a message end or was an empty segment; and

a fourth value if the transmitted segment is empty, or if the forth segment contains a message end and if a second prior message contained a message start, intermediary data, or a packet end.

7. (New) The device of claim 4, wherein unused most significant bits of a last segment are assigned a predetermined value.

8. (New) The method of claim 1, further comprising assigning a predetermined value to unused most significant bits of a last segment.

9. (New) A method for transmitting, between a monitoring circuit integrated with a microprocessor and an analysis tool, at least one digital message comprising at least one data packet, comprising:

dividing the at least one data packet into a plurality of segments comprising at least a first segment and a second segment, each of the plurality of segments being of a predetermined size and being classified according to at least one of the five following types of segment:

- segment containing a message start;
- segment containing intermediary data;
- segment containing a packet end;
- segment containing a message end; or
- empty segment; and

sending from the integrated circuit to the monitoring tool in sequence the first segment and the second segment,

wherein the first segment is classified as either an empty segment or a message end and the second segment is classified as either a packet end or a message end.

10. (New) The method of claim 9, wherein the first segment is classified as a message end and the second segment is classified as a message end.

11. (New) The method of claim 9, wherein the first segment is classified as an empty segment and the second segment is classified as a packet end.

12. (New) The method of claim 9, wherein the first segment is classified as a message end and the second segment is classified as a packet end.

13. (New) The method of claim 9, wherein the first segment is classified as an empty segment and the second segment is classified as a message end.

14. (New) The method of claim 9, further comprising sending from the integrated circuit to the monitoring tool a third segment of the plurality of segments, wherein the third segment is classified as message start.

15. (New) The method of claim 14, further comprising sending from the integrated circuit to the monitoring tool a fourth segment of the plurality of segments, wherein the fourth segment is classified as intermediary data.

16. (New) The method of claim 10, further comprising sending from the integrated circuit to the monitoring tool a third segment of the plurality of segments, wherein the third segment is classified as message start.

17. (New) The method of claim 16, further comprising sending from the integrated circuit to the monitoring tool a fourth segment of the plurality of segments, wherein the fourth segment is classified as intermediary data.

18. (New) The method of claim 11, further comprising sending from the integrated circuit to the monitoring tool a third segment of the plurality of segments, wherein the third segment is classified as message start.

19. (New) The method of claim 18, further comprising sending from the integrated circuit to the monitoring tool a fourth segment of the plurality of segments, wherein the fourth segment is classified as intermediary data.

20. (New) The method of claim 12, further comprising sending from the integrated circuit to the monitoring tool a third segment of the plurality of segments, wherein the third segment is classified as message start.